

## CLAIMS

1. Process for obtaining a photochromic latex comprising:

- 5       a C=C group, polymerizable by a radical process, at least one organic photochromic compound, at least one surfactant, water and optionally a polymerization primer;
- 10       (2) the treatment of the mixture obtained in step (1) in order to form a miniemulsion consisting of an organic phase dispersed in the form of droplets having a diameter of 50 to 500 nm, and preferably 50 to 300 nm, in an aqueous phase;
- (3) the addition to the miniemulsion of a polymerization primer, if this latter was not introduced in step (1), or of a quantity of primer additional to that added in step (1);
- 15       (4) the polymerization of the reaction mixture obtained in step (3), and
- (5) the recovery of the photochromic latex.

2. Process according to Claim 1, characterized in that the organic monomer Z is selected from the alkyl (meth) acrylates.

3. Process according to Claim 1 or 2, characterized in that the photochromic compound is selected from the chromenes and the spirooxazines.

4. Process according to Claim 1, characterized in that the Z monomer is selected from the alkyl methacrylates and the photochromic compound is selected from the spirooxazines.

5. Process according to any one of the preceding Claims, characterized in that the mixture of step (1) contains in addition a stabilization agent.

6. Process according to Claim 5, characterized in that the stabilization agent is selected from the n-alkanes, the halogenated n-alkanes, the fatty alcohols and the esters of fatty alcohols

7. Process according to Claim 6, characterized in that the stabilization agent is selected from hexadecane, cetyl alcohol and stearyl methacrylate.

8. Process according to any one of the preceding Claims, characterized in that the primer is introduced only at step (3).

9. Process according to any one of the preceding Claims, characterized in that the polymerization primer is soluble in the aqueous phase or in the organic  
5 phase.

10. Process according to Claim 9, characterized in that the polymerization primer is azobisisobutyronitrile or 2,2'-azobis (2-amidinopropane) dihydrochloride or sodium persulfate.

11. Process according to any one of the preceding Claims, characterized  
10 in that the treatment step (2) consists of passing the mixture of step (1) in a microfluidiser.

12. Process according to any one of the preceding Claims, characterized in that it comprises a degassing step of the miniemulsion before the addition of the primer.

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